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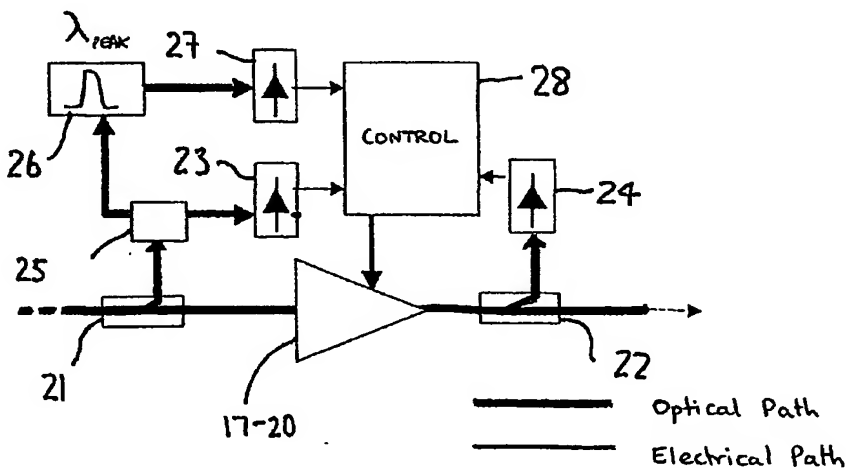
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(54) Title: **WAVELENGTH DIVISION MULTIPLEX OPTICAL RING NETWORK**



(57) Abstract: A wavelength division multiplex optical ring network comprises optical fibre (1-4) arranged in a ring configuration and a plurality of doped fibre optical amplifiers (17-20) arranged in the ring. The spectral response in the ring is configured such in use amplified spontaneous emission (ASE) noise circulates around the ring in a lasing mode to clamp the gain of each doped fibre optical amplifier. Each optical amplifier (17 - 20) includes respective control means (28) which in use control the optical amplifier to produce a substantially constant output power or to maintain a substantially constant pump power. In the event of loss of the lasing peak, detection means switches the doped fibre optical amplifiers to a different mode of gain control, for example, a mode to produce constant gain at the value before the loss of the lasing peak. Optionally, after a predetermined delay, the optical amplifiers may revert to constant output power or pump power mode. Loss of the peak could be detected by a peak detection circuit (27), which filters by means of filter (26) a fraction of the input or output power of the optical amplifier using splitters and/or by detection of a drop in amplifier input power.



SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ,
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